

THE FIRST GREAT INVENTION OF CHINA ACUPUNCTURE MERIDIAN

Acupuncture Meridian Research Centre

Institute of Biophysics

Chinese Academy of Sciences

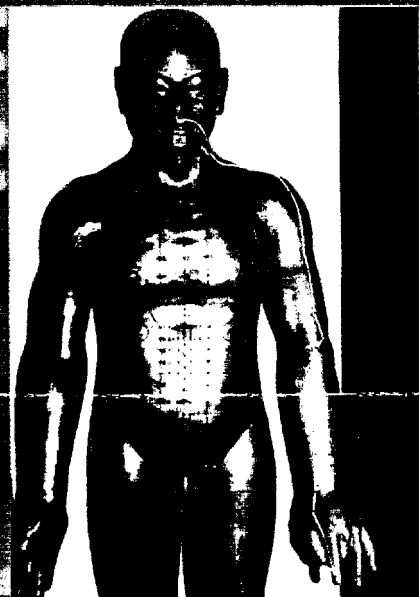
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中国第一大发明

针灸经络

中国科学院生物物理所
北京针灸经络研究中心



黄帝内经

Fig. 1 "Huang Di Nei Jin" or
"Yellow Emperor's Canon of
Medicine" (475-221 B.C.). The
first monumental medical
encyclopedia of the world. It
is the most classical book of
Traditional Chinese Medicine
and Acupuncture.

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Fig. 2 "Bronze Figure" (1027
A.D.) Made by Wang Wei-yi
of the Song Dynasty. On this
figure, the locations of the 14
Meridians and 354 Acupoints
were accurately sculptured.

Acupuncture Meridian Theory was established 2000 years ago (Fig 1,2). It was the first great invention of China. It is
pride of Chinese nation. It contributed tremendously to the prosperity of China and the health of peoples all over the
world. It will be a powerful weapon to keep people more healthy, more long life and to cure a lot of complicated diseases
which are incurable by modern western medicine. Acupuncture ought to be the best therapy in realizing the target of
MAKING BASIC HEALTH AVAILABLE TO ALL PEOPLES OF THE WORLD by the year of 2000 A. D. set by the
World Health Organization.

However, it is a pity that until present, people do not know the least of Acupuncture Meridian System. Whether does
the meridian system really exist? What are the basic phenomena and the material basis of the meridian system? These are still
a matter of disputation in western medicine and modern sciences.

Nevertheless, through the endeavor for 17 years, the Acupuncture Meridian Research Group of the Institute of
Biophysics, Chinese Academy of Sciences, led by Professor Zhu Zong-xiang, has definitely proved both biophysically and
morphologically the scientific evidences and the universal significance of acupuncture meridian system (Fig. 3) Acupuncture
meridian theory is both an old and a modern science.

First of all, to unmask the mystery of whether does meridian system really exist, professor Zhu established 3
biophysical methods, namely the hypersensitivity (LPSC), the high percussion sound (HPS) and the low impedance (LIP)
characteristics of the meridian line to verify scientifically the existence of the 14 classical meridians. Each meridian is of only
human width running basically in line with the ancient chart described in the "Canon of Medicine" 2000 years ago. (Fig



Fig 3 Prof. Zhu Zong-xiang of the Chinese Academy of Sciences(left) and Prof. Hao Jin-kai of the Yanan Institute of Acupuncture (right) are determining the meridian line by biophysical methods.

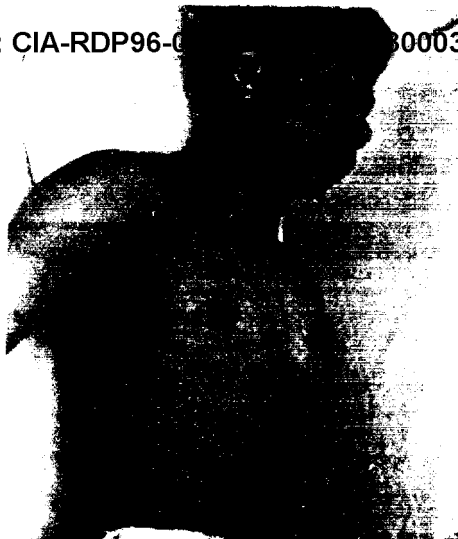


Fig 4 The Stomach Meridian line determined by the sound (red) and the electric (green) methods met each other and coincided intimately with ancient chart (see Fig.5)

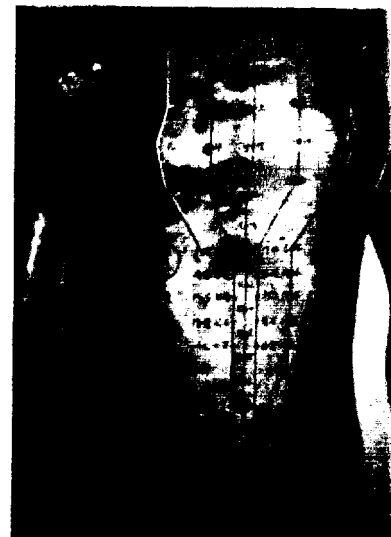


Fig 5 The Stomach Meridian (white) sculptured 960. years ago met closely with the experimental one (see Fig. 4)

Secondly, through the confirmation of the LIP and HPS characteristics of meridian line before and after amputation of patients suffered from osteoblastoma, Prof Zhu announced that acupuncture meridian is a distinctive and independent system from the central nervous or blood circulatory system. (Fig 6 . 7)

The third breakthrough of this Research Group was that by the application of the methods of LIP and HPS, a lot of animals as rat, rabbit, guinea pig, pig and sheep were found to exhibit acupuncture meridian system of similar orientation with that of human being. (Fig 8) The width of animal meridian line is also 1 mm. Recently, Prof. Zhu has discovered that even in plants as melon, banana etc. there are meridian lines characterised also by LIP and HPS properties (Fig 9). Acupuncture meridian system seems to be a universal rule in biosphere.

Is meridian visible ? With the cooperation of several Universities, Prof. Zhu and his collaborators discovered that under microscope, there are at least 4 cytological evidences relevant to the biophysical characteristics of meridian line. At the "1988 International Symposium on Acupuncture Meridian Biophysics" held in Beijing, Prof. Zhu announced that acupuncture meridian ought to be a MULTI-LAYERED, MULTI-FUNCTIONAL, MULTI-MORPHOLOGICAL, STEREO-STRUCTURAL HOMEOSTASIS SYSTEM of the body. (Fig10)



Fig 6 The Stomach Meridian line determined by the sound (red) and the electric (green) methods of a patient suffered from osteoblastoma before amputation



Fig 7 Photo shows the existence of low impedance (green) and high percussion sound (red) lines after amputation



Fig 8 Experimental Meridian of Stomach determined by sound (red) and electric (green) me-

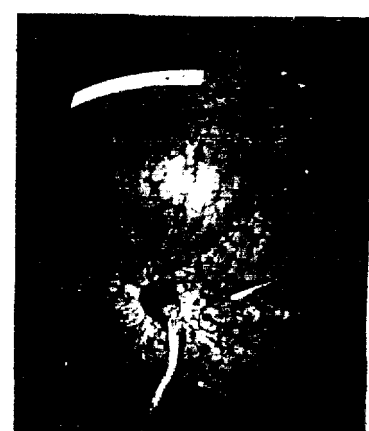
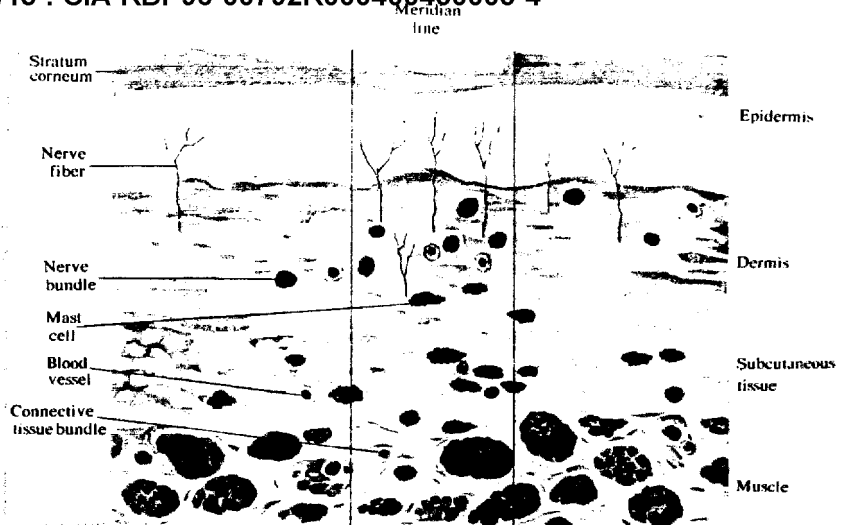


Fig 9 Low impedance lines (blue) and high percussion sound lines (red) determined on the body surface of melon.

Fig 10 Morphological Model of Meridian Showing the Multi-layer, Multi-cytological distributions under the Meridian Line.



Finally, what is the significance of these discoveries? Besides the scientific confirmation of the existence of Acupuncture Meridian System, Prof. Hao Jin-kai of the Yanan Institute of Acupuncture has applied the biophysical methods to orient exactly the 1 mm meridian line and then to treat many complicated diseases as asthma, emphysema, coronary heart disease, Parkinson's disease by traditional acupuncture manipulation at the acupoint of the experimental line. Prof. Hao has got very good curative effect on all of these diseases and named this treatment as the **EXPERIMENTAL MERIDIAN ACUPUNCTURE THERAPY**. (Fig 11, 12)

In conclusion, biophysical and morphological verification of the Acupuncture Meridian System has opened a new era of both Traditional Chinese Medicine and Modern Western Medicine. Acupuncture Meridian Theory is indeed a great treasury of all peoples. Further approach on the highly scientific, generalized and abstruse theory and to integrate this with all the achievements of modern science and technology including biology and biological sciences, physics, chemistry, bio-engineering, computer, cybernetics etc. will promote the reformation of a new science of Biology, Medicine and Human Body, which will much more benefit the peoples all over the world.

May.29, 1989. Beijing, CHINA



Fig 11 **EXPERIMENTAL MERIDIAN ACUPUNCTURE THERAPY** created by Dr. Hao Jin-kai and Zhu Zong-xiang has treated many complicated diseases as asthma, emphysema, Parkinson's disease etc. with very satisfactory result.



Fig 12 The world outstanding mathematician, Prof. Chen Jing-run (Middle) who has suffered from Parkinson's disease for 5 years, has got marked improvement after been treated by the Meridian Therapy.

针灸经络生物物理学

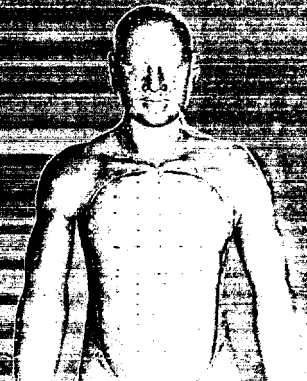
—中国第一大发明的科学验证

生理、生物物理学家祝总骥教授和针灸学家郝金凯教授主编的《针灸经络生物物理学》一书，作为向国庆四十周年献礼，已由北京出版社出版。

全书分三篇，第一、二篇据史实论述针灸经络学的形成与发展并以古典经络学关于经络在人体解剖、生理、病理、诊断和治疗各方面的重大作用论证经络系统乃是人体最高层次的调控系统。第三篇作者总结了近代经络学研究在感觉生理、电生理和应用声、光、热、电、核等生物物理技术取得十大突破性进展，并用中国科学院生物物理所的三种生物物理学方法（图3、4、6、7）发现十二正经都能准确定位，宽度为1毫米，其循行路线与古典经脉图基本吻合。本书还根据形态学研究首次提出经络是一种多层次、多功能、多形态的立体结构调控系统的理论（图10），同时在科学定经取穴的基础上针刺治疗多种疑难病取得较高疗效，从而首次提出实验经络针灸疗法（图11、12）。针灸经络学实乃中国对世界科学文明的第一大发明创造。本书出版标志古典经络学研究已步入现代化、科学化新阶段。

本书三篇计25章，118节，共40万字，附以多为首次问世图片（203幅，其中彩图68幅）和资料翔实地反映国内外经络研究最新成果。

针灸经络生物物理学 中国第一大发明的科学验证



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ACUPUNCTURE MERIDIAN BIOPHYSICS — Scientific Verification of the First Great Invention of China

Edited by Prof. Zhu Zongxiang and Prof. Hao Jinkai, this book will be published by the BEIJING PRESS in October, 1989.

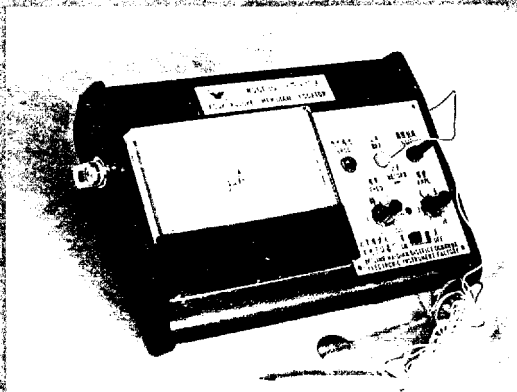
There are 3 Sections, 118 Chapters with 400 thousands characters. The first and second Sections deal with the formation, development and outline of the classical theory of traditional Chinese acupuncture. The third Section describes the recent progress in physiological, biophysical and morphological aspects of the acupuncture meridian system and its clinical application. Especially the confirmation of the 12 meridian lines by the 3 biophysical methods (shown in Fig. 3,4,6,7, of this poster) used in Prof. Zhu's laboratory has shown beyond doubt the existence of the Meridian System, which according to its important significance and ancient history should now be considered as the First Great Invention of Ancient China.

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Designed and prepared by Senior Engineers Liu Yiming and Fu Xingming, the highly sensitive and accurate ACUPUNCTURE MERIDIAN LOCATOR, WQ6F30, has been produced by the BEIJING DONGHUA ELECTRONIC INSTRUMENT FACTORY. This instrument can locate exactly all the 12 meridians of only 1 mm in width in coincidence with the ancient acupuncture meridian chart.

Dong Hua Electronic Instrument Factory Tel: 201-7893

Add: 41 Garden Road, Haidian District, Beijing, CHINA

Chinese and Soviet Scientists Cooperate to Confirm Existence of the "Jinluo" Line (Meridian Channels)

by LEPING ZHA

(*Department of Physics and Astronomy, University of Pittsburgh /
Pittsburgh NMR Center for Biomedical Research*)

Reflexology (manipulating areas on the feet to affect the rest of the body) was listed as "near bizarre" in a Times cover article on the alternative therapies [Claudia Wallis, "Why New Age Medicine is Catching On", November 4, 1991], compared with the "more credible" treatments like acupuncture, while in fact they are both based on the same ancient Chinese theory of "Jinluo" system, the critical "meridian line network" which links virtually all the human (and animals and plants as well reportedly) parts and passes the "qi" through them to maintain one's health and vitality. According to Huang-Di-Nei-Jin, the most ancient known gigantic Chinese work on traditional medicine, The system consists fourteen "Jin-Mai" lines plus numerous "Lou-Mai" lines that governs the circulation of the "qi" and the "Xue", the two most important elements of life, and adjusts somatic functions from feedback. It is believed by the work the comprehensive control system of the highest level in living body. These channels are also strongly believed by most Chinese parapsychological researchers as well as qigong masters as the pathway of the subtle energies which carries psi information [L. Zha & T. McConnell, "Parapsychology in the People's Republic of China: 1979-1989", JASPR, 85, 119-143(1991)].

There are huge number of papers on relations between Jinluo system and psi functions published in China since 1979. Some reported the ESP message's propagating speed along the lines as a typically 15 to 50 centimeters per second among the gifted EFHB (Exceptional Functions of Human Body, the Chinese term for ESP and PK) children and qigong masters [Zhuang Jianxiang, et al. (Inst. of Space Medico-Engineering, ISME), "Measurements on Human Electromagnetic Energy Field", Ziran Zazhi(Chinese Nature Journal), 11, 43-51(1988)], a figure well above the control group's (0.1 to 14 centimeters per second). They observed that once the "qi feelings" (usually tingling and bloating) reach their forehead, the desired ESP information appears as an "image" on a special "TV screen" there. There are as many patients receiving the Jinluo-theory based traditional Chinese medicine therapy regularly today as those using Western medicine, in the country where one fourth the earth's population lives (many actually use both simultaneously since it is not unusual for a Western medicine doctor, "Xi-Yi" as called, also prescripts the traditional Chinese "Zhong-Yi" drugs and treatments along with their Aspirin pills, etc.), since they took the existence of the Jinluo system as an well established fact right from their birth.

Wang Weiyi, a famous Chinese physician of Song Dynasty (960-1279) was the first to inscribe the fourteen Jinluo lines onto a copper body model for acupuncture-Jinluological teaching, study and therapy, forming that what we see often today in an acupuncture clinic. However, direct anatomic efforts failed to convincingly identify these lines either in vivo or in vitro, thus the question whether they really exist became a hot controversy in China and the related studies are active in many state-funded traditional medicine centers, research institutes and universities. Professor Zhu Zongxiang, who leads a group in the Institute of Biophysics of the Chinese Academy of Science (*Academia Sinica*) claimed recently that after nineteen year's scientific studies, they had proven rigorously the Jinluo lines' existence in human, animal and even plant bodies, by at least three independent and distinctive biophysical methods, including pulsed electronic and mechanical-acoustical stimulations-response studies and specific micro-electrode measurements.

According to Prof. Zhu, the Jinluo lines are identified by their low electric impedance, high electric potential, and special acoustic and thermographic conductive characteristics as compared with those of the channel's adjacent areas. Also, as they reported, the most important meridian phenomenon, known as propagating sensation along channel (PSC, the current of numb, distensive feelings propagating during needling at an acupoint), has been extensively studied and verified by classical physiological experiments such as ECG, EEG, EMG (electromyograph), EGG (electrogastrograph), local impedance rheogram, etc. [Zhu Zongxiang, Xu Ruimin, et al., "A Study on the Low Impedance characteristics of the Meridian Lines before and after necessary amputation", *Ziran Zazhi*, 9, 281-287(1986); Zhu Zongxiang, "The Advances and Prospect in Physiological and Biophysical Approaches to the Acupuncture Meridian System", *Ziran Zazhi*, 9, 327-332(1986); Zhu Zongxiang, et al., *Acupuncture Research*, 5, 308- (1980), 7, 169- , 238- , 299- (1982), 8, 73- (1983); etc.]. A detailed experimental channel location map had been produced by 1989 which shows all the fourteen Jinluo lines described in the fore-mentioned ancient works with complete agreement on their positions. The study reports that the typical width of the lines is about one millimeter, that their sizes and locations are stable from one's infancy to adulthood without much change, and that they remain detectable at the same locations in amputated limbs. Applying the same group of methods, Prof. Zhu claimed that similar meridian lines are also found in animals like rat, rabbit, and plants like banana, water melon, Hami melon, and cucumber. These claims have brought wide attentions among Chinese scientists and news media, partially because some of their claims are contradictory to another popular school of general believe in China that the channel system relies on the non-equilibrium physiological dynamic processes of the living body and therefore it would not be detectable *in vitro*.

According to a report of the official Xinhua News Agency (September 26,

1991, Beijing, by Zhu Baihua), Chinese and Russian scientists were closely cooperating to further reveal the reality of meridian channels by modern Biophysical means, and major progress has been achieved.

From the source, the research center headed by Professor Zhu signed a collaborate agreement with the Institute of Cytological Biophysics, the former Soviet Academy of Science, to launch a series of morphological and biochemical experiments on Jinluo system. The Russian scientists would investigate the special structure of the channels by optical and electron microscopes, as well as to measure the lines objectively by biochemical (enzymic) methods. The news reports that the scientists from the both sides had made exchanges frequently since May, 1990. A delegation led by Prof. Zhu visited the Soviet site in June, 1991, and Dr. Klamov (name translated from Chinese), director of the Cytological Biophysics Institute's radiology department, is working in the Professor Zhu's lab in Beijing. The report says the Russian researchers have successfully detected acupoints which on the whole agree with the Jinluo map made by Zhu's group.

"Experts" commented in a Xinhua news (*May 23, 1992, by Lang Jing and Chen Jianshan*) that the experimental proof of the Jinluological basics achieved from arming the traditional Chinese medicine system with modern science will "inexorably bring fundamental changes in our understanding on life and human potentials".

Also from other Xinhua reports, Dr. Qian Xuesen, the prominent Chinese rocketeer and former Chairman of the Chinese Science and Technology Association, Dr. Robert Jahn (*PEAR, Princeton University*)'s predecessor of the Goddard Professorship in the Cal. Tech. Jet Propulsion Laboratory who has been providing the crucial supports to China's psi studies from the very beginning, was granted by the party a one-of-a-kind "Outstanding Scientific Contribution Award" which was described as the highest honor ever to a scientist in China. The Chinese government had also started a "learn from Dr. Qian" movement throughout the nation's scientific and technological units. In the grant awarding ceremony attended by the party's top leaders, Dr. Qian mentioned that he will aim to further advance the "Somatic Science" research in China, along with the many other mentioned subjects like the Biological Sciences and the System Engineering.

(Revised on May 25, 1992)

A New Chinese Academy of Parapsychology

by LEPING ZHA

Somatic Science, the common term used in China for Parapsychology (see L. Zha and T. McConnell, "Parapsychology in the People's Republic of China: 1979-1989", *JASPR*, 85, 119-143) is still legitimate and favorably received there, according to recent correspondence from PRC.

The *Chinese Academy of Somatic Science*, a self-funded scientific research institute consisting of several administrative departments and research units mainly in Beijing, was officially established in late 1990. The formal aim of the Academy was stated to carry out "basic studies of somatic science" on the "exceptional functions of the human body (EFHB, usually psi functions, ESP and PK), qigong, and traditional and modern Chinese medicine using a "multi-disciplinary approach", so as to "lay a good foundation" for future development and application, in order to "benefit the mankind".

The head of the Academy's 18 member council, Mr. Zhang Zhenghuan, was formerly the Director of the Science and Technology Board of National Defense Science, Technology, and Industry Committee. Mr. Zhang is also the current president of the *Chinese Society of Somatic Science* (CSSS), the sole official Chinese scholastic organization of Parapsychologists. The Director of the Academy's academic committee, Prof. Chen Xin, is an Academician of the International Academy of Space Science, and the honorary director of the *Institute of Space Medico-Engineering* (ISME, an important Chinese psi research center). Prof. Lin Shuhuang, a physicist and a major researcher in the field, was elected as the Academy's president.

In July, 1990, the CSSS launched its publicly-circulated official journal, *Chinese Journal of Somatic Science*, which is edited by staff members of *Ziran Zazhi* (Chinese Nature Journal). The first issue contains papers on macro-PK experiments with high-speed movie camera, along with many other topics. The Journal comes with a list of contents and abstract of major papers in English.

The Chinese psi researchers are currently seeking opportunities to cooperate with Western parapsychologists. The Academy is planning to form a delegation to visit major North American parapsychological laboratories in the near future. The proposed delegation may include major Chinese subject(s), if proper testing arrangements can be scheduled. Invitations and financial assistance will be welcomed, and may be made through the *China International Culture Exchange Foundation's Somatic Science Research Development Fund* (of which Prof. Lin Shuhuang is a member of the governing board), 3107 Beijing Hotel, 33 East Chang An Avenue, Beijing 100004, PRC. Suggestions and inquiries can also be addressed to Leping Zha at the Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA 15260, USA ((412)268-3263, E-mail leping@unix.cis.pitt.edu).

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